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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/507,769	02/18/2000	Richard Kent Passman	D-20866	8623
7590	10/15/2004			
Praxair S T Technology Inc Law Dept - M1557 39 Old Ridgebury Road Danbury, CT 06810-5113			EXAMINER	THOMPSON, CAMIE S
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/507,769	PASSMAN ET AL.
	Examiner Camie S Thompson	Art Unit 1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on Amendment filed 7/21/2004.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 11-16 is/are allowed.

6) Claim(s) 1 and 2 is/are rejected.

7) Claim(s) 3, -7 and 9-10 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

**DETAILED ACTION*****Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 21, 2004 has been entered.
2. Applicant's amendment and accompanying remarks filed July 21, 2004 have been acknowledged.
3. Examiner acknowledges amended claims 1, 5 and 11.
4. Examiner acknowledges cancelled claims 4 and 8.
5. The rejection of claims 1, 3, 6-7 and 10 under 35 U.S.C. 103(a) as being unpatentable over Quigley, U.S. Patent Number 5,324,248 in view of Hatch et al., U.S. Patent Number 5,840,386 and in further view of Fujita et al., U.S. Patent Number 5,296,582 is withdrawn due to applicant's argument.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Quigley, U.S. Patent Number 5,324,248.

Quigley discloses a machine roll that has a roller sleeve structure, which comprises an

outer layer and an interior body layer of fiber-reinforced polymer (see abstract).

Additionally, the sleeve can have one or more interface layers, preferably of a composite,

disposed in between the outer and body layers as per instant claim 1 (see abstract).

Column 6, lines 45-48 of the reference disclose that the outer employs a thermally

sprayed metal as per instant claim 1. Quigley also discloses that the two interface layers

are typically of fiber reinforced polymer and the intermediate interface layer is designed

to provide a transition between the adjoining body layer and he the outer layer as per

instant claim 1 (see column 7, lines 13-25). It is also disclosed in the Quigley reference in

column 6, lines 48-50 that the outer layer has a metal substrate with a ceramic overcoat as

per instant claim 1. The reference also discloses that the sleeve is preferably fabricated

with one or more plies of fibers in an epoxy resin as per instant claim 2 (see column 2,

lines 8-37). In column 6, lines 45-57 of the reference, it is disclosed that the outer layer

can be a reinforced composite material such as carbon reinforced epoxy. The reference

discloses that when the outer sleeve is a metal that it can be thermally sprayed with a

metal (see column 6, lines 45-48). Although the reference does not specifically disclose

that the carbon reinforced epoxy is sprayed with metal, the reference does disclose that

the outer sleeve can be thermally sprayed with metal. Therefore, it would have been

obvious to one of ordinary skill in the art to spray the carbon reinforced epoxy (when

used as the outer sleeve) in order to have an outer sleeve that is hard to resist wear as by abrasion and scratching.

8. Claims 11-16 are allowed. The prior art does not provide for a fiber reinforced composite material comprising: a fiber reinforced polymer substrate; a first epoxy layer coating the fiber reinforced polymer substrate for joining two different polymeric composites, the first epoxy layer being free of fibers and particulate; a second epoxy layer coating the first epoxy layer, the second epoxy layer comprising an epoxy matrix and a particulate within the epoxy matrix, wherein the particulate in the second epoxy is a metal; and at least one thermally sprayed material coating the second epoxy layer to form an adherent multi-layer coating attached to the fiber reinforced polymeric substrate, the multi-layer coating being attached to the fiber reinforced polymer substrate with a tensile strength of at least about 10 MPa.

9. Claims 2, 5-7 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not provide for the recited fiber reinforced composite, further including the first polymeric layer as a two component epoxy resin of bisphenol F-type epichlorohydrin and diethylenetriamine ; the first polymeric layer having a thickness of 0.002 – 0.127 mm and the second polymeric layer having a thickness of 0.050-3.2 mm wherein the second polymeric layer has particulate matter in the amount of 20-85% and the particulate matter has a size of 500  $\mu\text{m}$ .

***Response to Arguments***

10. Applicant's arguments with respect to claims 1-3, 5-7 and 9-16 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L Dye, can be reached at (571) 272-3186. The fax phone number for the Group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



RENA DYE  
SUPERVISORY PATENT EXAMINER

A.U. 1774 12/13/07